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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/314,578	05/18/99	MORRIS	R	226/051

TM02/0213

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EXAMINER
BAKER,S

ART UNIT	PAPER NUMBER
2133	C

DATE MAILED:
02/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

☒ Responsive to communication(s) filed on _10/30/00_

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire _____*three*__ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) _1-50_ is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☒ Claim(s) _10 and 48-50_ is/are allowed.

☒ Claim(s) _1-9 and 11-47_ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on _10/30/00_ is ☒ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

   ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

      ☐ received.

      ☐ received in Application No. (Series Code/Serial Number) _____ .

      ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   *Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

2.   Claims 1-9 and 11-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 5,699,365 to Klayman et al. ("Klayman").

Regarding claim 1: Klayman discloses "a method of selecting an error correction algorithm

in a communications system". Although Klayman notes (e.g. col. 3, lines 28-39, col. 9, lines 36-

39) that upstream and downstream channels may be TDM channels, Klayman does not specifically

describe the channels in terms of multiple time-slotted frames. Official notice is taken that

multiple time-slotted frames for TDM channels were well known at the time the invention was

made. It would have been obvious to a person having ordinary skill in the art, at the time the

invention was made, to implement Klayman's TDM by multiple time-slotted frames. Such an

implementation would have been obvious because multiple time-slotted frames for TDM channels

were well known.

A step of "determining an error rate level of a communication channel based on a plurality

of bearer packets when received during said multi-frame" is provided by the time-slotted

implementation of Klayman's TDM, as Klayman teaches (e.g. col. 8, lines 55-57) utilizing an

average value of an error rate, which would involve monitoring a plurality of TDM frames, i.e. a

"multi-frame". A step of "selecting an error correction algorithm from a plurality of error correction algorithms taking into account said error rate level" is also provided by Klayman (e.g. Fig. 4, steps 330, 340, 350, 360). A step of "determining the dynamic quality of said communications channel" is providing by continued error rate monitoring after changing the error correction algorithm.

Regarding claims 30, 31, 36, and 41: Klayman teaches using a "computer program" to implement the error rate monitoring and FEC control (e.g. col. 9, lines 40-55).

Regarding claims 13-16, 20, 25, 28, 40, and 45-47: wired and wireless media are taught by Klayman (col. 3, line 8). Klayman's primary station (101) is a "central station" and each of Klayman's secondary stations (110) is "remote station". Both types of station may be "FEC dynamic", to permit dynamic FEC coding on upstream and downstream channels. (col. 9, lines 42-55).

Regarding claims 2 and 3: user data is "traffic data" that varies inversely with error correction coding "overhead" (col. 6, lines 19-34).

Regarding claim 4, 18, 26, 33 and 37: although Klayman teaches monitoring packet or block error rate (col. 7, line 50) of data encoded by Reed-Solomon (RS) forward error correction block codes and CRC error detection block codes (e.g. col. 4, lines 25-26 and 32-33), Klayman does not describe detecting errored packets after correction. Official notice is taken that using a combination of RS and CRC codes to detect errored packets after correction was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in

the art, at the time the invention was made, to implement Klayman's RS + CRC decoding to

detect errored packets after correction. Such an implementation would have been obvious

because using a combination of RS and CRC codes to detect errored packets after correction was

well known.

Regarding claims 5 and 6: an acceptable range for Klayman's monitored error rate has a

minimum and maximum level defined by allowable tolerances (col. 7, line 60 to col. 8, line 24).

Regarding claims 7, 8, 19, 27, 34, 38 and 44: Klayman teaches BER as an alternative to

BLER (col. 7, line 49).

Regarding claims 9, 32, 39, 42 and 43: as any time in a TDM embodiment of Klayman's

system has a frame associated with it, and as a "multi-frame", defined above to correspond to the

number of time frames over which an average error rate is monitored in Klayman's system to

generate a value for deciding an adjustment in FEC coding, may be extended in definition to

include a time frame during which the FEC adjustment decision is completed, Klayman's FEC

adjustment deciding process may be considered to occur in "the last time frame of said multi-

frame".

Regarding claims 11 and 12: a "no error correction" mode is taught by Klayman (col. 12,

lines 18-23).

Regarding claim 17: Klayman's RS coding would involve an "appending ... with said error

correction data".

Regarding claims 21 and 24: transmitting "a signal ... indicating said error correction algorithm selection" in performed in Klayman's system (e.g. Fig. 4, step 370).

Regarding claim 22: Klayman's central station would "approve" or "deny" any message based on whether it is decodable.

Regarding claim 23: Klayman's transmissions include a "signal".

Regarding claim 29: Klayman does not specify a response for "confirming" Klayman's FEC revision message (step 370). Official notice is taken that channel reliability improvement by message "confirming", i.e message acknowledgment, was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to implement Klayman's FEC revision message transmission protocol to include revision message acknowledgment. Such an implementation would have been obvious because channel reliability improvement by message acknowledgment was well known.

Regarding claim 35: Klayman does not specify placing the station operating program on a ROM chip. Official notice is taken that the convenience advantage of placing an operating program on a ROM chip was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to implement Klayman's program instructions on a ROM chip. Such an implementation would have been obvious because the convenience advantage of placing an operating program on a ROM chip was well known.

Allowable Subject Matter

3.   Claims 10 and 48-50 are allowed.

Response to Arguments

4.   Applicant's arguments filed on 10/30/00 have been fully considered but they are not

persuasive.

The newly-added limitation regarding dynamic quality determination is addressed in the

rejections above.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date

of this final action.

7.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Stephen Baker, whose telephone number is (703) 305-9681. The examiner

can normally be reached on Mon.-Fri. from 9:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Albert DeCady, can be reached on (703) 305-9595. The fax phone numbers for the organization

where this application or proceeding is assigned are: (703) 305-3718 for informal papers only, and

(703) 308-9051 or (703) 308-9052 for formal papers.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3800.

SMB

February 10, 2001
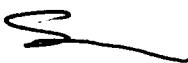
STEPHEN M. BAKER
PRIMARY EXAMINER